REMARKS

In view of the present claim amendments, Claims 1, 4, 5, 7, 9, 10, 14, 16 and 17 are pending and Claims 2-3, 6, 8, 11-13, and 15 are canceled.. Previous claims 1-7 and 9-17 were rejected over various grounds recited in the Office Action (or to the cited Examiner's Answer of 20 Oct. 2009 and/or the Office Actions of 30 April 2008 or 2 Nov. 2008). The claim amendments and following comments are believed to address, overcome or render moot the rejections and place the claims in condition for allowance. All of the amendments find support in the specification or claims as originally filed, and no new matter is believed entered. All of the amendments are made without waiver of any right to prosecution of further subject matter.

Claims 1, 7, 14, and 16, and claims 2-6, 9-13, 15 and 17, were rejected under **35 U.S.C. § 112, First Paragraph, as containing new matter** based on a lack an adequate written description, according to the Office Action for reasons stated in the Examiner's Answer of 20 Nov. 2009. The phrase "an amount of a composition comprising an amylin or amylin agonist" said "amount effective to inhibit weight gain or weight loss" in said human subject was viewed as not supported with written description, whereas what was viewed as supported was an amount of the compound effective to decrease body weight. The amount of a salt form of amylin or an amylin agonist as recited in claim 14 was viewed as not supported by written description. The method of treating obesity "consisting of" administering an effective composition comprising an amylin or an amylin agonist and a pharmaceutically acceptable carrier was viewed as lacking written description, but that a method "comprising" administration of drug did have written description support, citing to the originally filed specification at lines 6-8 of page 9 of the specification states: The present invention is directed to novel methods for treating or preventing obesity in humans comprising the administration of an amylin or an amylin agonist, for example, the amylin agonist analogue ^{25,28,29}Pro Pro-human amylin. (Applicant notes that the above quote is at page 9, lines 6-8, of the substitute specification of 2005 that was submitted to address sequence listing numbers; and also at page 13, lines 1-4 of the application as originally filed. If the Examiner is relying on another version of the application, he is invited to call the undersigned as soon as conveniently possible to resolve this confusion.) In further support of this view, the Examiner's Answer stated "Thus, the method of treatment of obesity as described

in the originally filed specification comprised insulin administration and the administration of a specific dose of pramlintide to type II diabetic patients."

The Applicant believes the rejection is rendered moot in view of the currently pending claims. While not acquiescing for reasons already of record to the rejection or any of the various asserted bases of them for reasons already of record, Applicant has amended the claims. All of the independent claims have been amended to no longer recite "to inhibit weight gain or weight loss," but now recite "to decrease body weight" as suggested by the Examiner. The independent claims have been amended to no longer recite "an amylin agonist or amylin analogue," but now recite ^{25,28,29}Pro-h-amylin (SEQ ID NO:1) as an active agent. Claim 1, which recited "consisting of administering," has been amended to recite "consisting essentially of administering." A reasonable reading of the specification (as required, see Board of Patent Appeals and Interferences in *Ex parte Sorenson*, 3 U.S.P.Q.2d 1462, 1463 (P.T.O. Bd. Pat. App. & Int'f 1987)) will find that the specification provides descriptive support for the above. For one example, it is believed the step of administration of insulin would not be reasonably viewed as a step for treating obesity but rather a step for treating hyperglycemia. The weight-reducing effect by administration of pramlintide reported in the present specification is striking in part because it occurred in subjects with type 2 diabetes with concomitant insulin therapy and in the face of a significant A1C reduction, factors that all favor weight gain (for example, see Aronne et al., The Journal of Clinical Endocrinology & Metabolism, 92(8):2977–2983 (2007), already of record in Applicant's response of 23 October 2007). Therefore, the language of claim 1 finds written description in the specification. As all of the dependent claims ultimately depend on the amended independent claims, the rejection is believed moot with respect to these claims. Withdrawal of the rejection from all of the claims is respectfully requested.

Claims 1-7 and 9-17 were rejected over **35 U.S.C. § 112, First Paragraph**, as lacking enablement with regards to scope of claims, according to the Office Action for reasons stated in the Examiner's Answer of 20 Nov. 2009. Applicant notes that in the Examiner's Answer at page 3, claim 3 was not rejected ("Claims 1, 2, 4-7 and 9-16 are rejected …") under this statute, and is presumably still the case since the Examiner's Answer was the most recent and complete rejection referred to in the Office Action. In any event, the Applicant believes the rejection is

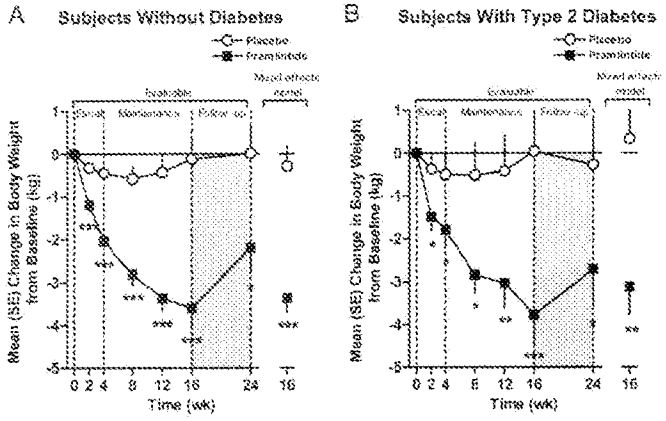
rendered moot in view of the currently pending claims. While not acquiescing for reasons already of record to the rejection or any of the various asserted bases, Applicant has amended the claims. In brief, the Examiner's Answer appears to view the demonstration of weight loss in obese patients by administration of pramlintide as not providing commensurate support for claims which recited an amylin or amylin agonist, nor as support for "inhibiting weight gain or weight loss." The Examiner's Answer at page 7 stated that:

> This is critically important because at the time of the invention, there was no predictability that if one used an amylin, amylin agonist, or a non-pramlintide amylin agonist analogue in place of Applicants' pramlintide (SEQ ID NO: 1) in type 2 diabetic or non-diabetic overweight or obese subjects who are on or not on insulin treatment, or in morbidly obese human subjects who are on or not on insulin therapy, the administered amylin, amylin agonist, or non-pramlintide amylin agonist analogue would bring about significant or clinically meaningful weight loss-inducing, weight gain-inhibiting, or obesity-relieving effect.

The independent claims no longer recite "an amylin agonist or amylin analogue," but now recite pramlintide as an active agent as suggested by the Examiner. The independent claims no longer recite "to inhibit weight gain or weight loss," but now recite "to decrease body weight" as suggested by the Examiner. The independent claims now recite a specific route and mode of administration, specifically by subcutaneous injection, as suggested by the Examiner. The independent claims now recite that the administration is daily, consistent with the specification and examples. The independent claims recite the amount of pramlintide to be administered daily as 0.5 to 2.0 milligrams. Dependent claim 17 recites the preferred salts as explicitly described at page 13, line 3 of the specification. One of ordinary skill in the art, knowing the therapeutically effective amount of pramlintide, a basic peptide, can readily calculate the corresponding amount of its salt form, particularly for the acetate, trifluoroacetate and HCl forms.

As already made of record, pramlintide administered as described in the present specification, e.g. subcutaneously by injection, effectively reduces body weight in obese human patients that are not diabetic (see for example Aronne et al., The Journal of Clinical

Endocrinology & Metabolism, 92(8):2977–2983 (2007), of record in Applicant's response of 23 October 2007):



Applicant's specification and working examples in fact provide enablement of the efficacy of a particularly difficult to treat, chronically obese subject population. Applicant respectfully submits that the claimed methods are enabled by the specification. As all of the dependent claims ultimately depend on the amended independent claims, the rejection is believed moot with respect to these claims as well. Withdrawal of the rejection from all of the claims is respectfully requested.

Claims 7, 14, 16, and 17 were rejected based on the **judicially-created doctrine of obviousness-type double patenting** over claims 34 and 35 of Gaeta, U.S. Patent No. 5,686,411, (hereinafter "Gaeta") as evidenced by Tsanev, *Vutr. Boles*, 23:12-17 (1984) (hereinafter "Tsanev"). Claims 34 and 35 of Gaeta recite "a method for the treatment of diabetes mellitus in a mammal comprising the administration to said mammal of a therapeutically effective amount of" any of 7 recited amylin analogs (Claim 34) or pramlintide (Claim 35). As already established in the record, Gaeta is directed to controlling blood sugar primarily in insulin-requiring patients (e.g. see column 8 of Gaeta), and therefore claims 34 and 35 would be viewed as directed to treating diabetes mellitus by controlling blood sugar. For reasons already of record, nothing in Gaeta, even taken with Tsanev, suggests treating obese patients with pramlintide in order to obtain a reduction in body weight, much less even expect that a reduction in body weight would occur. In addition, the genus of "diabetes mellitus" patients recited in Gaeta Claims 34 and 35 include those who are not obese, e.g. the majority of type I insulin-

requiring patients are lean or normal weight. Therefore, not only do the teachings of Gaeta not render the claimed invention obvious, but also the genus of patients of Gaeta Claims 34 and 35 does not render obvious the treatment of obese human patients of the present claims. For these reasons (and those already of record) Claims 34 and 35 do not render the present claims obvious. Withdrawal of the rejection is respectfully requested.

Claims 7, 14, and 16 were rejected based on the **judicially-created doctrine of obviousness-type double patenting** over claims 11 and 13 of Beaumont, U.S. Patent No. 5,321,008, (hereinafter "Beaumont") as evidenced by Tsanev, *Vutr. Boles*, 23:12-17 (1984) (hereinafter "Tsanev") and Rink et al. (US 5,739,106, of record). In brief, Beaumont is cited against the previous independent claims that recited use of an amylin agonist. Claims 11 and 13 of Beaumont recite "a method for treatment of diabetes mellitus in an insulin-requiring mammal comprising administering to said mammal a therapeutically effective amount of a calcitonin" where them mammal is human (Claim 11) or the human has type II diabetes (Claim 13). As already established in the record, Beaumont is directed to controlling incidences of hypoglycemia in insulin-requiring patients by administration of a therapeutically effective amount of a calcitonin to prevent the hypoglycemia (e.g. see column 4 of Beaumont). Therefore claims 11 and 13 would be viewed as directed to treating diabetes mellitus by controlling blood sugar to prevent hypoglycemia, and specifically using a calcitonin. Pramlintide is not a calcitonin. For reasons already of record, nothing in Beaumont suggests treating obese patients with any calcitonin, much less pramlintide, in order to obtain a reduction in body weight, nor even expect that a reduction in body weight would occur. Tsanev does not provide this expectation even if one accepts that a majority of type II diabetes patients on insulin are obese. As already recognized on the record, Rink does not cure the defect in the broad claims of Beaumont, nor suggest the narrower present claims directed to weight loss using pramlintide. Further, the genus of "diabetes mellitus type II" patients recited in Beaumont Claims 11 and 13 include those who are not obese. Therefore, not only do the teachings of Beaumont not render the claimed invention obvious, but also the genus of patients of Beaumont Claims 11 and 13 does not render obvious the treatment of obese human patients of the present claims. The broad claims of Beaumont cannot render obvious the specific methods as now claimed. For these

reasons (and those already of record) Claims 11 and 13 do not render the present claims obvious. Withdrawal of the rejection is respectfully requested.

Claims 1-7, 9-14, 16 and 17 were rejected as anticipated under **35 U.S.C. § 102(a)** by Kolterman, WO 96/40220, (hereinafter "Kolterman '220") as evidenced by Tsanev, *Vutr. Boles*, 23:12-17 (1984) (hereinafter "Tsanev"). In brief, it is viewed in the Office Action that Kolterman '220 inherently anticipated the previous claims. Without acquiescing to the rejection or the bases referred to in the Office Action, Applicant submits that the present amendments moot this rejection. Kolterman '220, and particularly the working examples, are believed not to provide the recited details of the present claims. For example, as recognized by the Examiner, Kolterman '220 taught administering 10, 30, 50, 60 or 150 micrograms per day of pramlintide, amounts that fall outside of the presently amended claims. Thus Kolterman '220 cannot anticipate the present claims as amended. Withdrawal of the rejection is respectfully requested.

Claims 7, 14 and 16 were rejected as anticipated under **35 U.S.C. § 102(e)(2)** by Beaumont, U.S. Patent No. 5,321,008, (hereinafter "Beaumont") as evidenced by Tsanev, *Vutr. Boles*, 23:12-17 (1984) (hereinafter "Tsanev"). In brief, Beaumont was cited against the previous independent claims that recited use of an amylin agonist. The rejection is believed rendered moot by the present amendments in which all of the independent claims are now directed to the use of pramlintide. Thus Beaumont cannot anticipate the present claims as amended. Withdrawal of the rejection is respectfully requested.

Claims 7, 14, 16 and 17 were rejected as anticipated under **35 U.S.C. § 102(e)(2)** by Gaeta, U.S. Patent No. 5,686,411, (hereinafter "Gaeta") as evidenced by Tsanev, *Vutr. Boles*, 23:12-17 (1984) (hereinafter "Tsanev"). In brief, Gaeta was cited as alleging providing every aspect of the invention of the previous rejected claims 7, 14, 16 and 17, and inherently anticipating those previous claims. For reasons already of record, and without acquiescing to the rejection or bases provided therefore, Applicant respectfully submits that the presently amended claims moot the rejection. For example, the present claims as amended incorporate the limitations of at least previous claims 3, 4 and 5 (as well as additional limitations) which were not subject to the current rejection. Withdrawal of the rejection is respectfully requested.

Claims 1-7, 9, 11-14, 16 and 17 were rejected as anticipated under **35 U.S.C. § 102(b)** by Kolterman et al, *Diabetologia*, 39:492-499 (April 1996) (hereinafter "Kolterman 1996") as evidenced by Itasaka et al, *Psychiatr. Clin. Neurosci.*, 54:340-341 (June 2000) (hereinafter "Itasaka"). In brief, it is viewed in the Office Action that Kolterman 1996 inherently anticipated the previous claims. Without acquiescing to the rejection or the bases referred to in the Office Action, Applicant submits that the present amendments moot this rejection. Kolterman 1996 and particularly its working examples are believed not to provide the recited details of the present claims as amended. For example, as recognized by the Examiner, Kolterman 1996 taught administering 30 micrograms three times a day, and in some individuals to 300 micrograms per day, of pramlintide, amounts that fall outside of the presently amended claims. Further, Kolterman 1996 was directed to examining the acute effects of pramlintide on hyperglycemia in insulin-dependent diabetes mellitus, i.e. type 1 diabetes, patients. As is known, typically type I patients are lean or normal weight; the lack of insulin prevents efficient uptake of glucose that lead to a decrease in daily calories. Consistent with this is that the body weight of type I patients in Kolterman 1996 were about 70 kg, typically considered "normal" and the mean BMI reported were also consistent with normal weights, at worst slightly above normal, and certainly not obese. As already provided on the record, and in view of the foregoing, Itasaka does not reasonably support the assertion that the type 1 patients of Kolterman were obese. Accordingly, it is respectfully submitted that for these reasons and those already of record, Kolterman's treating type I diabetes patients who are lean-to- slightly overweight on average with amounts up to 300 micrograms per day to control blood sugar over 14 days does not anticipate the presently claims as amended. Withdrawal of the rejection is respectfully requested.

In section 17 of the Office Action, a reliance is made on Thompson et al. 1997, an abstract of May 1997, as extrinsic evidence of inherency in the prior art. Applicant notes that it was established on the record in 2002 that Thompson May 1997 is not prior art and in fact reflects the same clinical trial results described in the present application. Ratner 2005 has not been cited as a reference relied upon in any of the outstanding rejections. Kolterman 1996 has been argued above, particularly with respect to the presently amended claims.

In light of the enclosed remarks and the amendments, Applicant respectfully requests reconsideration and withdrawal of all objections and rejections set forth in the Office Action, even as they may apply to the presently amended claims.

Further, Applicants believe all claims presently under consideration to be in a condition for allowance and request issuance of a Notice of Allowance at the Examiner's earliest convenience.

Should the Examiner have any remaining questions regarding the subject invention or its patentability, **Applicant encourages the Examiner to contact the undersigned to discuss** any issues remaining.

Fees totaling $810.00 are believed due with this submission. However, if this calculation is incorrect, the Commissioner is hereby authorized to charge payment of any fees associated with this communication, to Applicant's Deposit Account No. 010535. Additionally, the Commissioner is hereby authorized to charge payment or credit overpayment of any fees during the pendency of this application to Applicant's Deposit Account No. 010535.

Respectfully submitted,
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